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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,435	01/10/2001	Brian S. Kim	WISEnut 704	8491.

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EXAMINER

LY, ANH

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 04/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/757,435

Applicant(s)

KIM ET AL.

Examiner

Anh Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 28-52 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

1. In response to Applicants' amendment filed on 02/21/2003.
2. Claims 28-52 have been cancelled (page #8).
3. Claims 1-27 are elected and are pending in this application.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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6. Claims 1-3, 5-7, 11-13, 15-17 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,112,203 issued to Bharat et al. (herein Bharat).

With respect to claim 1, Bharat discloses calculating an intrinsic rank of a page; calculating an extrinsic rank of the page; and calculating tile rank of the page by combining the intrinsic rank and the extrinsic rank (Authority pages and other pages or hub pages: col. 2, lines 6-10; authority score and hub score: col. 7, lines 41-51).

Bharat also discloses the function of intrinsic rank and extrinsic rank of the pages based on the authority page and other pages and authority score and hub score respectively (col. 7, lines 44-46 and col. 8, lines 10-14).

Bharat although teaches intrinsic and extrinsic rank of a page or authority score and hub score based on the web pages having specific content of interest to users which is located by web browser and search engines are defined the hyperlinks that connect the page to others (col. 1, lines 14-17 and lines 65-67), the limitations that are not clearly indicated.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the authority pages and other pages from search engine to have an computation of authority scores and hub scores (col. 7, lines 41-51 and col. 8, lines 10-16) as taught by Bharat. Because it would have made the method being used to rank the document or page based on the scores (col. 3, lines 30-35) in the collection of ranking documents or pages in hypertext environment.

With respect to claim 2, Bharat discloses wherein the intrinsic link is a function of the content score and the page weight of the page (col. 7, lines 41-51 and col. 8, lines 1-16).

With respect to claim 3, Bharat discloses wherein the content score is a function of the frequency, location, and/or font size of a keyword in the page (frequency of occurrence of terms of the web page: col. 7, lines 28-38).

With respect to claim 5, Bharat discloses wherein the page weight is obtained as the sum of the product of a link weight of each inbound link to the page and the page weight of the originating page (col. 2, lines 6-16 and col. 5, lines 21-30).

With respect to claim 6, Bharat discloses constructing a connectivity graph which represents the collection of hypertext pages and the link structure between the pages; adding a page weight reservoir with bi-directional links to and from each of the pages in the collection of hypertext pages and summing all of the products of each inbound link weight with the page weight of the originating page providing the inbound link (abstract, see fig. 2, item 211, col. 4, lines 30-44 and col. 6, lines 17-49).

With respect to claim 7, Bharat discloses initializing a page weight vector to a constant; constructing a connectivity graph representative of the link structure of the collection of pages; computing an output page weight vector from the input page weight vector and the connectivity graph; and comparing the output page weight vector for the input page weight vector for convergence, and if convergence is reached, writing the output page weight vector to a page weight database, and if not, mixing the input and output page weight vectors to generate a new input page weight vector and repeating

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until convergence is reached (col. 6, lines 58-64 and col. 7, lines 1-38; col. 2, lines 6-16 and col. 5, lines 21-30; also see col. 6, lines 58-64, col. 7, lines 10-38 and lines 52-59).

With respect to claim 11, Bharat discloses wherein the extrinsic rank is a function of the anchor weight and the page weight of the pages providing inbound links to the page (abstract and col. 2, lines 59-67 and col. 3, lines 1-9; also see col. 1, lines 65-67, col. 5, lines 6-20; col. 7, lines 41-51 and col. 8, lines 1-16).

With respect to claim 12, Bharat discloses wherein the extrinsic rank is obtained by summing the products of the anchor weight and the page weight of the originating page providing each inbound link (col. 8, lines 2-8; also see col. 2, lines 6-16 and col. 5, lines 21-30).

With respect to claim 13, Bharat discloses wherein the anchor weight is a function of the inbound weights and the keyword being present in the anchor text in the vicinity of the anchor text, or in text related to the topic of the anchor text (abstract, col. 1, lines 65-67; also see col. 5, lines 6-20).

With respect to claim 15, Bharat discloses wherein the page weight is obtained by summing the products of the link weight of each inbound link to the page and the page weight of the originating page providing the inbound links (col. 8, lines 2-8; also see col. 2, lines 6-16 and col. 5, lines 21-30).

With respect to claim 16, Bharat discloses constructing a connectivity graph, which represents the collection of hypertext pages and the link structure between the pages; adding a page weight reservoir with bi-directional links to and from each of the pages in the collection of hypertext pages; and summing all of the products of each

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inbound link weight with the page weight of the originating page priding the inbound link (abstract, see fig. 2, item 211, col. 4, lines 30-44 and col. 6, lines 17-49).

With respect to claim 17, Bharat discloses initializing a page weight vector to a constant; constructing a connectivity graph representative of the link structure of the collection of page; computing an output page weight vector from the input page weight vector and the connectivity graph; and comparing the output page weight vector with the input page weight vector for convergence, and if convergence is reached, writing the output page weight vector in a page weight database, and if not, mixing the input and output page weight vectors to generate a new input page weight vector and repeating until convergence is reached (col. 6, lines 58-64 and col. 7, lines 1-38; col. 2, lines 6-16 and col. 5, lines 21-30; also see col. 6, lines 58-64, col. 7, lines 10-38 and lines 52-59).

With respect to claim 21, Bharat discloses wherein the collection of hypertext pages is fetched from the web (col. 5, lines 39-56 and col. 6, lines 5-10).

With respect to claim 22, Bharat discloses calculating the intrinsic rank of a page for a multi-keyword query; calculating the extrinsic rank of the page for the multi-keyword query; and calculating the rank of the page in the collection of hypertext pages by combining the intrinsic rank and the extrinsic rank (Authority pages and other pages or hub pages: col. 2, lines 6-10; authority score and hub score: col. 7, lines 41-51; also see col. 2, lines 66-67 and col. 3, lines 1-9; and col.4, lines 9-22).

Bharat also discloses the function of intrinsic rank and extrinsic rank of the pages based on the authority page and other pages and authority score and hub score respectively (col. 7, lines 44-46 and col. 8, lines 10-14).

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Bharat although teaches intrinsic and extrinsic rank of a page or authority score and hub score based on the web pages having specific content of interest to users which is located by web browser and search engines are defined the hyperlinks that connect the page to others (col. 1, lines 14-17 and lines 65-67), the limitations that are not clearly indicated.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to utilize the authority pages and other pages from search engine to have an computation of authority scores and hub scores (col. 7, lines 41-51 and col. 8, lines 10-16) as taught by Bharat. Because it would have made the method being used to rank the document or page based on the scores (col. 3, lines 30-35) in the collection of ranking documents or pages in hypertext environment.

With respect to claim 23, Bharat discloses wherein the intrinsic rank is a function of content score and the page weight (col. 7, lines 41-51 and col. 8, lines 1-16).

With respect to claim 24, Bharat discloses wherein the content score is a function of the proximity value of the multi-keywords and of the frequency, location, and/o font size of the multi-keywords in the page (frequency of occurrence of terms of the web page: col. 7, lines 28-38).

With respect to claim 25, Bharat discloses wherein the extrinsic, rank of the page is a function of the partial extrinsic ranks and the proximity value of the multi-keywords (abstract and col. 2, lines 59-67 and col. 3, lines 1-9; also see col. 1, lines 65-67, col. 5, lines 6-20; col. 7, lines 41-51 and col. 8, lines 1-16).



With respect to claim 26, Bharat discloses wherein partial extrinsic rank is a function of the anchor weight and the page weight of the pages with identical anchor text (col. 8, lines 2-8; also see col. 2, lines 6-16 and col. 5, lines 21-30).

With respect to claim 27, Bharat discloses wherein partial extrinsic rank is computed by summing the products of the anchor weight and the page weight of the pages with identical anchor text (abstract, col. 1, lines 65-67; also see col. 5, lines 6-20).

7. Claims 4, 8-10, 14 and 18-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,112,203 issued to Bharat et al. (herein Bharat) in view of US Patent No. 5,835,905 issued to Pirolli et al. (herein Pirolli).

With respect to claim 4, Bharat discloses a method of ranking the pages as discussed in claim 1.

As to the limitation, "wherein the page weight is defined as the probability of a user visiting the page when traveling in the collection of hypertext pages in a random fashion," Bharat does not explicitly indicated that a user visiting the page when traveling in the collection of hypertext pages in a random fashion.

However, Pirolli discloses usage frequency indicating how many times a web page has been accessed and how many times a traversal was made from one web page t another (col. 5, lines 8-10 and lines 61-64).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Bharat with the teachings

of Pirolli so as to obtain the probability of a user visiting a web page on a random basis (col. 5, lines 8-10). This combination would provide the method for determining the relevance weight of a page or document including the terms of query in it and ranking the pages (Bharat – col. 3, lines 25-35); and to identify the rank of particular page and on their relevance (Pirolli – col. 2, lines 15-37) in the collection of ranking documents or pages in hypertext environment.

With respect to claim 8-10, 14, 18-20, Bharat discloses a method of ranking the pages as discussed in claim 1. Also Bharat discloses the position or location of pages as the offset of the lined page (col. 4, lines 51-67; also see col. 3, lines 65-67 and col. 4, lines 1-3).

As to the limitation, “wherein the page weight is defined as the probability of a user randomly choosing the link to visit other pages when traveling in the collection of hypertext pages, and the reciprocal of the total number of links outbound from an originating page” Bharat does not explicitly indicated that a user visiting the page when traveling in the collection of hypertext pages in a random fashion.

However, Pirolli discloses usage frequency indicating how many times a web page has been accessed and how many times a traversal was made from one web page t another (col. 5, lines 8-10 and lines 61-64) and the total of number of pages generating a set of entry point candidate pages (col. 7, lines 22-35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teachings of Bharat with the teachings of Pirolli so as to obtain the probability of a user visiting a web page on a random basis

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(col. 5, lines 8-10). This combination would provide the method for determining the relevance weight of a page or document including the terms of query in it and ranking the pages (Bharat – col. 3, lines 25-35); and to identify the rank of particular page and on their relevance (Pirolli – col. 2, lines 15-37) in the collection of ranking documents or pages in hypertext environment.

**Contact Information**

8. Any inquiry concerning this communication should be directed to Anh Ly whose telephone number is (703) 306-4527 via E-Mail: **ANH.LY@USPTO.GOV**. The examiner can be reached on Monday - Friday from 8:00 AM to 4:00 PM.

If attempts to reach the examiner are unsuccessful, see the examiner's supervisor, Kim Vu, can be reached on (703) 305-4393.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 746-7238 (after Final Communication and intended for entry)


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label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Fourth Floor (receptionist).

Inquiries of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

AL   
APR. 5<sup>th</sup>, 2003.

  
HOSAINT T. ALAM  
PRIMARY EXAMINER